

1

Realistic guidelines/protocols for conducting randomized trials in educational settings.

2

About 2a. Priority- acknowledgement that the education of environmental health core concepts does not require a special class of it's own. Interdisciplinary integration of environmental health themes allows real-world application in all four main disciplines and works at all grade levels. (just look at the daily paper, EH... .IS the news) About 2b. The highest priority and most directly powerful voice will come from scientists and researchers themselves. They can identify and can articulate easily what the obvious limitation is to trying to apply clinical trial protocols on classrooms of kids.

3

Support at the national level to facilitate coordination among diverse programs

4

5

6

The UAW represents approximately 18,000 workers in the Commonwealth of Puerto Rico, distributed among 15 Local Union units. Most of these represented workers are concentrated in the public school cafeterias, but many others work at numerous government agencies, including the Puerto Rico Environmental Quality Board, and the Puerto Rico Department of Agriculture. There are a variety of environmental and occupational hazards that all of these workers are exposed to on-the-job. One of the challenges faced by the UAW Health and Safety and Education Department is to train these workers how to recognize chemical hazards, how to evaluate their risks, and most importantly how to prevent damage caused by exposures to hazardous materials. This particular challenge is significant since UAW is at the beginning of a process of translating key training materials and informational factsheets into the Spanish language (and specifically the Puerto Rican dialect).

One indicator that Puerto Rico needs focused attention in terms of Environmental and Public Health is the rate of asthma within the Puerto Rican population. According to health statistics cited by the US EPA, nearly 20% of all adults in Puerto Rico suffer from asthma and in some areas of Puerto Rico, half of the children end up in the emergency room annually with asthma attacks. Puerto Rico has the highest rate of death, highest rate of hospitalization and emergency room visits due to asthma in the U.S. Whatever factors (environmental, genetic or otherwise) are causing such a high rate of asthma amongst this population should be of interest to researchers and educators.

During its tenure as a NIEHS WETP grantee, the UAW has developed a corps of peer-trainers, drawn from the rank and file, who deliver UAW Emergency Response and other related training programs. This successful component to UAW's NIEHS grant funded training program has met

some of the tremendous need for high-quality occupational health and safety training within the union, and most recently has branched out to attempt to meet the needs of the Puerto Rican membership by incorporating peer-trainers from Puerto Rico and through translating curricula into Spanish. UAW also utilizes worker-trainers to perform evaluation of Emergency Response and other training programs delivered by the peer-trainers. This innovative approach could be expanded to include peer-trainers in Puerto Rico, and provide a rich data source for the academically-based evaluation project partners at the University of Michigan.

7

The program needs the necessary resources to hire and retain highly qualified personnel to perform the work. Finding and retaining qualified individuals in the staff often proves difficult. As personnel will need to encompass a variety of differing functions, finding qualified personnel to perform the differing phases (identification of potential affected population, collection and analysis, statistical impact evaluation and interpretation, education (policy makers, health care providers, outreach organizations, students and educators, lay persons, legislators, public interest groups, industry groups and lobbies, etc.). A partnership as mentioned above with universities and private sector entities may allow the training and development of staff through an internship or fellowship program, allowing all partners to benefit. This presents an additional opportunity to NIEHS to work with the identified and potential partners to develop, recruit, and retain these staff for these positions and integration into other areas of work rather than a revolving door to another sector. Partnerships will need to be explored with agencies and organizations not normally considered a traditional public health partner, such as internships for education students, not just in Public Health, but in science, or curriculum development and outreach, mathematics and statistics, public interest groups or consortiums, population-based outreach centers, etc.

A second area of need is equipment appropriate for the collection and analysis. As state agencies, funding does not always permit the purchase and/or maintenance of equipment that is current or needed for the development of a new program without legislative backing. Partnerships may be able to aid in this capacity; however, securing funding for the necessary equipment and materials will decrease a significant stumbling point. NIEHS participation with the Expert Working Group will aid in addressing the "we don't want to know what's there" issue.

8

Dissemination of existing tools. Partnering with nurses and other healthcare workers in hazard communication and risk assessment.

Education of policymakers.

Work with vulnerable populations.

9

For 2.a., incorporating environmental health assessment tools, educational programs, and prevention activities specifically designed for nursing practice. For 2.b., extramural research funding is the highest priority.

10
More research funding and high quality of review panels.

11

12
Keys to the success of the program described above were access to the science and research faculty, availability of professional development credit for teachers, and the continued endorsement from and partnership with MSDE. Currently, funding is unavailable to continue the program as described. The materials are still available on the web, but without the Professional Development Institute, teachers are less aware and less interested in using the resources.

13
2(a): Commitment, resources, and engagement.
2(b): Regularly updated and easily available guidance documents and a significant commitment to the development of cumulative impacts policies.

14
Funding for nursing education, faculty and technology supports
Multidisciplinary opportunities for research

15
Funding for non-research projects that can actually provide 2-way communication about the research agenda. This might include conferences, policy-relevant workshops, etc. The foundation-funded programs for developing responses to nanotechnology might be a good example. Providing support for core functions at COECs, such as GIS capability and staff with expertise in policy analysis is also critical.

16
Development of materials for various audiences, a appropriate format, to demonstrate linkages between multiple exposures and health outcomes and research regarding synergistic effects of multiple chemicals on health.

17
1. Outreach, recruitment and multidisciplinary education for students who understand the importance of bridging the community-technical research gap in the occupational/environmental health arenas. This should include greater opportunities for internships with existing NIEHS programs.

2. Funds to create AND MAINTAIN ongoing university-community relationships with funding specifically designated for participation by community members with limited resources.

3. Funds to explore creative outreach and education approaches that combine public awareness with linkages to existing resource organizations.

4. Grant opportunities that encourage existing grantees to collaborate and that establish a mechanism to facilitate transfer of funds and reporting for the collaborating groups as an entity. This approach was used by the WETP in the Gulf Coast after the hurricanes.

18

For housing quality, we need a solid research foundation to document health effects of poor housing quality. Without this, it will be difficult (to impossible) to work with housing providers to improve conditions. Public policy changes may be the most effective strategy in this arena, as housing providers probably have little incentive to improve their housing in situations where they are the only ones offering housing at given price-points (especially in low income areas). For this reason, public policy-oriented research is needed.

For childcare facilities, we also need a solid base of research to better understand the exposures and health effects. Very few programs exist to minimize exposures and health effects in these environments, and we need innovative solutions for reaching this diverse community of care providers.

19

20

The highest priority tools are the use of Public access cable TV channels and the EPA video public service announcements. There is a good website also, CANSAR.org which is "Cancer Survivors Against Radon".

21

Data and analysis; data needs to be appropriate for the message we are trying to convey, applicable to the populations at risk, complete to the degree possible. Public needs vary from those who have low personal thresholds for risk tolerance to those who simply have no concern. Framing the levels of risk and communicating that to policy makers, health practitioners and the public is difficult.

22

23

One of these is to integrate this into mainstream assessment and care. This could be done by developing standards of care that include environmental assessments, etc.

Many tools have been created for exposure assessment in homes,

schools, and communities. NIEHS should assist with evaluation, broad dissemination within the nursing community, and a mechanism for continuous up-dating (via web-based) these tools.

. Tools that are appropriate for nurses should be evaluated and broadly disseminated regarding effective exposure reduction for environmental risks - i.e./ lead and mercury exposures, integrated pest management, reduction of asthmagens and asthma triggers.

24
Validated survey tools. Financial and operational support for CBPR.

25
People, web-based resources.

26
Effective on-site detection and monitoring instrumentation is needed in order to carry out environmental scans of particular neighborhoods or urban areas that are proposed as likely sites for a Smart Growth project. These environmental scans require a multimedia approach to assess potential environmental exposures from different sources in the urban environment. When the scans are available, tools allowing an assessment of potential unified impact on public health need to be available and understandable as well. It will also be essential to be able to correlate potential impacts with the sources of the contamination. This type of linkage is important to be able to propose reduction in such levels and to assure that levels are not unintentionally increased as part of the Smart Growth planning.

27
Research money made available to study chronic disease and/or exposures. When a substance causes death, it is relatively easy to demonstrate cause-effect. With substances like neurotoxins, it is much more difficult, yet there is a real loss of a person's potential and that person's quality of life. The effects of toxic chemicals, especially on the very young, needs much more study. Money made available to do that would be welcome.

28

29
Consensus guidelines that identify the exposures that have been definitely shown to have an adverse health outcome in communities AND evidence-based interventions to address the exposures that have an adverse health outcome.

30
Chlorine Institute Pamphlet 74, p. 26

31

communication of environmental issues from a logical and practical perspective

resources in the areas of highest need which can then be replicated for other areas

policies to force cooperation and coordination

32

(1) Measure the incidence and prevalence of emerging waterborne pathogens such as mycobacteria and legionella in public and private water supplies.

(2) Measure the incidence and prevalence of diseases caused by emerging waterborne infectious agents such as mycobacteria and legionella.

(3) Fund studies to identify the risk factors for different emerging waterborne diseases to produce a risk assessment that can be used by water utilities and public health authorities to guide future planning.

(4) Devise and produce educational materials to alert public health authorities, water utilities, and citizens of possible health risks.

33

GPS, GIS, Accelerometers, Personal Pollution Exposure Monitors

34

The National Childrens Study needs ongoing support and the scope and duration should be expanded.

35

Perhaps a common template for evaluation questions and tools. Individuals could modify the tools to meet their needs but the "bones" of the plan would be developed and shared with all.

36

See. 1.

37

38

Ability to have researchers translate their research into public policy forums. Most researchers will need training to do this since they are often incomprehensible or so arcane as to be useless for practical or immediate decisions.

39

Consistent tools/instruments that are used to gather data and do assessments. Not different ones for different environmental disasters. One would think that exists but apparently different agencies use different tools so the data gathered is inconsistent and of course requires different methodologies for analysis.

40

I think I already answered this.

41

NIEHS would have to create grant programs that are long enough to allow for partners to identify problems, propose solutions to the problems identified, and implement some of them. The existing research cycles (4-5 years) are not long enough to allow for this full process to achieve maturity. NIEHS may consider the creation of new Community-based Environmental Research Centers that consolidate partnerships to develop the full range of elements mentioned above. They would have to be "cradle to grave" research centers that would interact continuously with communities to solve local and regional environmental problems. Instead of funding research according to diseases, exposures, or departments, NIEHS would have to fund centers to solve problems affecting communities in a given region. The Northern European experience with Science Shops is a good model to follow.

42

I think that more funding is needed for outreach and evaluation material development

43

1) A media agenda to promote greater awareness of environmental health to make it a common household term (or close to it)

2) Research information about different health issues and the connection to environmental health issues (what is known and what is still being investigated). What are people able to do now to better protect their health?

44

Identify genetic susceptibility markers relevant to the major and suspected human carcinogens.

45

The highest priority resources are

- Available funding, with a cap that is high enough to enable research that can adequately address the questions posed by partnerships, and for which research by partnerships is especially suited.
- A scientific review process that at least is not adversely disposed to research conducted by community partnerships, on a par with that available for investigator initiated research. The review process must take into account BOTH scientific merit and community need.

- Grants that have potential for competitive renewal when justifies and applicable

46

The greatest challenge is translation of environmental exposure research findings into useful information for impacted communities. Better translation of findings into use by impacted communities can be achieved through meaningful partnerships between researchers and CBOs.

47

Identify projects in need.
Apply methods using trained volunteers
Apply methods requiring changes in building operation behavior or lifestyles
Develop long term assurances that the methods being used are working as intended and collecting the data over 20 years or more

48

Best tools or resources are reports by NIEHS and EPA in language nonmedical local officials can understand.

49

Strong national leadership is needed. Environmental public health should be established as a jewel in the NIH Roadmap.

50

NIEHS should fund Education and Outreach materials that cover the entire spectrum of potential audiences. K-12 audiences should and must be included. NIEHS invested a very significant amount of money in the IMD, TED and EHSIC grants. A lot of ground was covered, but much more work is left to be done. I know of no other federal (or state) agency that is currently funding EHS educational materials. If NIEHS does not, then it is unlikely that young people will learn about EHS, and we'll be spending much more money in the long run to "educate" adults about EHS and to deal with the health effects of environmental exposures. In addition, grant opportunities are very rare for funding evaluation of educational materials. It is very difficult to engage in this type of research. A big challenge is finding teachers/schools who are willing to participate in this type of educational research. Since "environmental health" is not included in the National Science Education Standards (and EHS has weak links, at best, to most state standards), it makes this type of research even tougher to do. NIEHS should also fund "informal science education" programs - such as science camps, University-based science education centers, science museums. This may be a way of providing young people (and the general public) with exposure to EHS topics through a non-school setting (Since, in many/most schools teachers and administrators feel that EHS is not related to educational standards and not worth spending classroom time on).

51

1) Strong support for high quality, intensive professional development for teachers at all grade levels K–12; 2) opportunities to development new evaluation tools and methodologies for science education

52

53

I believe that there are great opportunities for better outreach, education, and research to occur through the PEHP program. I think that NIEHS has to play a bigger role in not just providing funding for research, but also for education activities. I think there are opportunities for NIEHS to work with APHA, EPA, ATSDR, NCEH, NEHA, AEHAP, and ASPH in order to develop better education programs to train undergraduates, graduates, postdocs, and faculty in environmental health, environmental justice, CBPR, community engagement, and environmental health disparities research. NIEHS should use models from NIGMS MORE program and NSF AGEP and HBCU-UP programs to provide funding to train students from disadvantaged or underrepresented groups. Additionally, the EPA has innovative programs such as the EJ small grants, Collaborative-Problem Solving Model (CPS) grants, and CARE grants that provide in some cases funding directly to community-based organizations and funding for partnerships and collaborative-problem solving using resource leveraging, consensus building, conflict resolution and other principles. The NIEHS should review these programs and come up with funding mechanisms only for community-based organizations like the CPS program and other mechanisms that adapt criteria from these programs to ensure that true partnerships are being built, partnerships are collaborative, and the partnerships are truly addressing environmental health issues. The EPA requires that grantees from the CPS program provide rigorous project management plans. This will help improve biomedical, prevention, exposure, intervention, and dissemination research.

54

- * Capacity to hire or engage appropriate experts for various tasks
- * Identifying appropriate experts (e.g., evaluators, environmental engineering firms, and science curriculum developers) for work at hand
- * Lack of capacity, curriculum, and programs available to identify and train leadership for CBOs and researchers to continue work on the environmental health issues identified and the CBPR model

55

I have stated them above.

56

Community outreach should be a viable and required component of all grant programs, researcher-initiated and others.

Researchers, even those in the so-called basic sciences, should be required to address the public health relevance of their research in their grant applications and all grant-supported publications. This criterion would be a stand-alone criterion of all applications and uniformly enforced.

A lay-abstract of each grant-supported publication must be forwarded to EHP for posting prior to any acknowledgement of the publication by the funding agency. Lack of adherence to this requirement will invoke sanctions. It's that important! Standards for these abstracts would need to be developed and promulgated; and quality control procedures would need to be implemented.

Experience to-date with numerous novel NIEHS grant programs seems to have demonstrated that researchers cannot be forced to engage anyone in their discipline, let alone outside their discipline, whether community advocates or others, in the research process or educating the public about research methods, objectives, outcomes, etc. However, the funding agency can demand that institute-supported research findings are communicated to the lay public in both a timely and accessible manner. Lay abstracts for each peer-reviewed journal publication would go a long way to giving the public access to current research findings – something the outreach and community education programs seek to provide.

NIEHS needs to identify and recognize new outcome measures of excellence besides peer-reviewed scientific journals. Otherwise, this whole effort to engage the public is a one-way street, i.e., the objective is to train our community partners to be junior research associates. Surely, the preferred outcome is to improve the research and its impact on public health; this is best accomplished by engaging the strengths of all “stakeholders” and taking stock of these advances.

57

Additional opportunities are needed for sharing of experiences, methodology and evaluation instruments designed to assess programmatic impact and outcomes. This could include actual or virtual (electronic) conferences, workshops and peer clusters, as well as other novel approaches.

58

Although NIEHS should make every attempt to streamline, find, encourage and utilize the best tools, approaches and resources for advancing public health, it is important to keep in mind that public health research and outreach does not necessarily have nice, neat, obvious, and immediate outcomes (e.g. 10 out of 50 rats died from kidney failure).

There is a certain amount of "we are doing it because it needs to be done" in the realm of public health.

With that said, perhaps it would be helpful to identify best-practices approaches for the types of public health research listed in #2 and to develop a list of reasonable outcome measures for the different types of activities and research.

59

New program resources for training new kinds of environmental professionals who are broadly trained, refinement of non-intrusive, easy to use monitoring devices (probably not in your area).

60

- * Appropriated resources for NIEHS and that for grant making capacity
- * Workforce development tools to train the next generation of advocates, researchers, and trainers in the field
- * Peer-reviewed and science-based educational materials that are geared toward each targeted stakeholder population (there are organizations that have great models but do not have the capacity to expand due to limited resources)

61

62

63

64

There are several scientific tools (also used extensively in policy development) that are needed to for effectively and efficiently protect environmental public health: biomonitoring and environmental health tracking are two that require attention. Biomonitoring measures “pollution in people,” helping to connect chemicals in the environment to disease by measuring the burden of toxicants in the body. Health tracking uses biomonitoring, chemical release, geographic exposure and health outcome data to explore and document connections between the environment and health. NIEHS could help advocate for and play a federal leadership role in the development of these tools.

65

Researchers need to focus more on the outcomes and the consumer then owning the rights to their work; maybe they would work better together- the researchers that seem to be better at this have come from the business world first and have learned to work as a group.

66

1. It is important that we have the funding to meet regularly.
2. I also ask the NIEHS to consider funding community advocates for the time they put into this research
3. I would also like to see the NIEHS play a more active role in overseeing all of the work that is being done at research centers.

67

- * Staffing would be needed for the one-on-one assistance with evaluation development.
- * A clearinghouse of documents produced on environmental health issues for various audiences could be kept in the NIEHS website. Examples from various sources could be used (CDC CLPPPs,

HOPE partnership documents, COEPs, local health departments, etc.) -Funding to implement evaluation components (if programs don't already have them).

68

Traditional research projects emphasize models where universities work within communities to impart knowledge to community members. In order to be effective and truly embrace the community based participatory research model that we have found to be the most successful approach for changing attitudes, perceptions and behavior (on the individual, family, community and institutional levels), there needs to be a shift in this relationship. Research projects that create a true partnership between communities and universities, and are designed to value and draw from the knowledge, tools and expertise that already exist in communities, have the most potential for success.

69

Our highest priority is the successful implementation, growth, and sustainment of the Environmental Public Health Tracking Network at both the state and national scale.

70

New evaluation methods are sorely needed to assess the effectiveness of community outreach programs. Bringing in people in the social sciences or other disciplines may help in this regard. Also needed are projects that work hand-in-hand with policy so that findings on environmental risks can be put to use.

71

Highest priority tools: Community Involvement Performance Measures.
Challenge - Minimization of use of surveys (expensive measure) in community outreach performance.
Challenge - Extensive network of personnel required to create technical reference sheets.

72

Highest priority resource is a sustained financial commitment to evaluate the comprehension, retention and implementation of educational materials across diverse audiences. The best tool for this task is dedicated opportunities for collaboration among partners, both in the relevant discipline and among the community.

73

Resources may include knowledge, people, access, and funding. Funding is a critical resource because it costs to produce educational materials and to pay people for their time and expertise put into developing such items. This includes appropriate funding to identify and convene expert panels and focus groups.
Published education and outreach materials can enhance people's knowledge about environmental hazards. They are tools that we could use in environmental and public health to inform the policy makers of the need for new or revised regulations. They can inform the public

as to how they can best protect communities, themselves, and their families. They also can inform employers how they can best protect employees.

74

Health GIS, integrative interdisciplinary research methodologies, dialogic multi-stakeholder research methodologies. Resources: Political will in NIH/NIEHS and among researchers to move beyond a treatment-based approach to health, to a more systems-based approach that identifies then controls drivers, emphasizing prevention, or the blending of prevention with treatment.

75

In the past eight years, we have formed a very successful collaboration with our farming communities. As a result of our community collaboration, we have been able to recruit many farmworkers to our studies. Our most recent work follows 100 farmworker families and 100 non-farmworker families. We could not have done this without our community involvement. The communities have learned to work with us to answer questions raised by the community about OP pesticides. For example, in our last grant, the community Board came up with 3 of our 4 specific aims. All of this is to illustrate the importance of working with communities. We have established trust and partnership. This is probably the most important tool/resource we have used in our work. More attention should be given to community involvement in the research process.

76

Continuing to keep Environmental Health Perspectives as a public and free source of high-quality environmental research is important. Funding to continue academic-community partnerships is also important, as these have been highly valuable to us in our work on air pollution, respiratory health, and land use. Our NIEHS EJ grant gave us access to academic researchers with a wide variety of expertise, including exposure assessment, air monitoring technology, air modeling methods, science education at the high school level, biostatistics, GIS mapping, and current research on air pollutants and health. Our grant also allowed us to contract with additional experts in fields such as electrical transmission technology. Additional tools to allow community residents to take their own environmental samples or conduct surveys and help to interpret results would be empowering to people struggling to improve the environmental quality of their communities.

77

RFPs that provide separate tracks for new initiatives and initiatives that are building upon prior work that is breaking new ground. NIEHS could consider these separate strategies in their investment portfolio.

Project officer support to bring funded projects together at least once each year or two.

78

With continued funding of the NIEHS-BMWTP program in jeopardy, obviously we would encourage NIEHS to identify possible sources of funding to continue this very worthwhile project. Not only are environmental hazards being mitigated, residents of these affected communities are being employed to assist in remediation efforts and this is a win-win situation for everyone.

79

Already addressed in Question 2.

80

- * Pilot studies in the targetted community to know its needs.
- * Identify exact problme and well outlined strategic plan of action.
- * Qualified and trained staff. Reduce language barrier.

81

Continued education and increased litigation for funding are probably the most critical. Since the superfund site stretches across 3 states and two EPA regions there is a lot of politics involved.

82

Partnership with EPA and ATSDR should be strengthened if at all possible. NIEHS should continue to be very active in the National Children's Study so that the important of exposure and prevention is always a clear priority. I think it's very important that communities who receive NIEHS funding realize the importance of sustainability. They expect too often that the funding will continue. Cooperative agreement mechanisms with shared/matching funding is much more sustainable that the usual R25 or R01 mechanisms. The models of community engagement used by foundations such as RWJ are good models that NIEHS should consider.

83

Active engagement with state, local and federal policy makers, providing information in an convenient yet understandable approach that the lay public can understand. This may mean working directly with policy makers, their institutions, and institutions that promote environmental health.

84

Themes: (1) Mixtures of exposures (the "real life" scenario); trying to identify interactions and overall effects due to exposures of different types, including interactions between genetic and lifestyle factors; (2) Better methods to "make sense" (biological, clinical, public health) of studies using emerging high-throughput technologies (SNP chips, microarrays, etc.) -- including emphasis on replication of results, but also greater emphasis on clinical importance of results

(e.g., study identifies 20 important SNPs but it is difficult often to tell from a single reported study what the potential public health impact of having 2 SNPs would be)

Health outcomes: across the entire life course (not single outcomes) Do not address: single exposures or single outcomes in isolation (most exposures do not occur in isolation!)

85

With funding in place BSPI will immediately set up the office operation. This will include rent for the office workspace, the expense of office equipment, in addition to hiring the office support staff including an Executive Assistant/Bookkeeper; Data Entry Clerk, Part Time Intern and the salaries for the Project Directors. The establishment of an online presence for BSPI including: general information and project progress updates; a survey form with database & printable backend application, an updatable photo journal section and an online project donation set-up, will aid in the increase of the public awareness of the project.

86

Develop a digest that comes to public health professionals on a daily basis with the latest research with interventions-this might require a 'war room' of individuals who comb articles/dissertations, digest the information and find the resource(s) that present the information and intervention (or best practice) to public health-something like what NACCHO does, except that only subscribers can upload their 'tools'. The best thing that's happened to public health as been the \$\$ thrown into BT-all the great University resources that are free and available are wonderful. The problem is it still takes precious time to find them all, or 'the one' that fits best. There should be awards for 'best practice' tools and resources that are out there- or a way to rate them-like buy.com or shopping.com.

87

Science needs to be made fun again. We need to infiltrate the entertainment industry, offer experts for use (look at the movie “Finding Nemo” for examples of what one expert can do in a movie). We must learn to work with the bastion of ignorance: Religion. Modern churches are great opportunities for education and outreach, but scientists need training to work with these people.

88

Low cost exposure measurements - CDC in the past has generated new technology for measuring Pb cheaply. We need this to have accessible low-cost measurement of ambient exposures and biomarkers.

89

90

- Better tools for exposure assessment should be a high priority.

- Creating training programs for environment risk communication and outreach professionals is another high priority.
- Finally, outreach should receive funding on par with research support.

91

At the present time the only facility in the United States capable of analyzing samples for marine toxins is the Hollings Marine Lab. While that lab does excellent work, it is overloaded. Progress in the area of marine toxins would be greatly facilitated if one or more other facilities in the U.S. were capable of doing the same kind of high quality work that Hollings can provide. The equipment and scientific expertise needed to carry out the analyses are expensive, and there is no reason that such a facility exists in everyone’s backyard. But the U.S. needs more than one. With respect to toxins, I think the most promising approach for detecting chemicals such as ciguatoxin will probably be based on antibodies. The University of Washington COHH has been developing such a test for domoic acid.

92

As discussed briefly in Question 1, a number of resources are needed to effectively address the effects of environmental exposures on public health and facilitate the initiatives identified in Question 2: specifically, funding for community outreach and educational materials (including graphic designers and web designers familiar with low-literate audiences, as well as associated printing and dissemination costs), laboratory space, an effective policy and translation staff, and staff to physically disseminate many of these materials throughout neighborhoods of interest.

93

NIEHS needs to fund nurse researchers, environmental health nursing centers of excellence, so that tools and training can be developed for nursing use. Several years ago NIEHS and several other federal agencies convened a meeting of national nursing leaders to help develop a plan for NIEHS programming and funding. These recommendations NEED to be implemented.

94

95

X

96

X

99

NIEHS can play a vital role in providing resources to community-based organizations to develop more effective education and outreach strategies and materials, including communication campaigns that focus on youth, lay public and regulatory agencies.

100

The most critical tools to develop would allow the creation of a broader research framework. Important to overcoming barriers is the establishment of partnerships with community organizations which promote empowerment of these organizations. The community may perceive realities before the scientific community realizes it. Research should lead to action-oriented interventions. Partnerships should combine training and intervention. A critical attribute to include is to have good quality community organizing. It is also important to form true partnerships between universities and community-based institutions in which resources are shared as well as decision-making and data sharing.

101

From the outreach and education standpoint, there is no substitute for standing within NIEHS and funding to support the highest quality work. Community outreach and education is enormously important. It can not be a step-child of the research enterprise and succeed; it must be seen as a necessary partner.

102

Integrative risk based models and frameworks that allow for integration and interpretation of basic research and allow for linkage through biomarker research to population and individual exposures and response.

103

Funds to translate new scientific information into public health-useful contexts are needed. This includes increased funds for modeling integrative biomarkers of exposure, response, and susceptibility into risk-based information and estimates. Expanding interdisciplinary funds for dialogue and training are essential and could be achieved by leveraging partnerships with NSF and NOAA.

104

Dissemination of evaluation methods and examples of how these methods have been used successfully to evaluate education, communication, and health literacy strategies with various participants including communities, K-12 teachers and their students, and health professionals.

105

Accessible archive of human biological samples with characterized exposures to allow comparison analyses with smaller communities and to start establishing a more comprehensive data set to understand the influence of modifying factors, age, and demographic variables on disease outcome. While individual communities may be small, they can provide a beginning for understanding that can be reevaluated as a central archive is built. In addition to the sample accessibility, accessibility to health effects associated with the samples is needed. This was also identified as a major need at the translational science workshop. It could benefit communities by streamline the research needs to answer their questions through providing comparison data. Obviously much thought needs to go into the structuring of exposure and health assessment instruments that would support this resource.

Centrally coordinated access points for communicating current science to the public, policy-makers, and providers. In spite of the extensive efforts, ATSDRs ToxFacts still remain the most readily accessible information source, and they are very limited in terms of the importance of socioeconomic factors, and do not reflect current science. They are a great starting point, but also not something that can be modified on the fly. The concept started by Toxipedia is probably as good as anything out there for trying to become a source of information that is open, accessible to peer-review, and aimed at lay language. Possibly funding the development of something like that would be a good avenue for the Institute to become involved in – a timely, peer-reviewed mechanism for conveying current information.

Building and extending partnerships unfortunately requires its own funding stream. We have discussed in our partnerships that it might be worthwhile to allow small grants for demonstrations of how expanded partnerships might work together. We discussed initial grants to just plan how to work together, identify appropriate partners at research institutions, government agencies, health care institutions, and communities that agree on common needs and problems, and can develop an approach to move forward. If the planning is successful, they could seek an extension to implement a demonstration project to ensure their ability to work together successfully, might involve collection and assessment of secondary data, or compilation of a “state of the community” report to inform policy-makers or providers, or whatever meets the common needs. This would shake out many problems prior to seeking major funding, ultimately both improving the chances of success by reducing the stress associated with major research projects, and ultimately reducing the cost of research by allowing for a more efficient process to be developed. Review could determine whether the success has been demonstrated, and the partnership could at an early stage in development reassess whether it is workable or whether key players need to be replaced or added.

106

Develop Centers of Excellence with the charge to establish multidisciplinary, academic training programs, translational research and outreach to address environmental public health. Regional partnerships that involve universities, K-12 school districts and workforce development programs will provide pathways for students to pursue careers in environmental health sciences, public health, and medical health sciences. Degree and certificate programs, evaluation research, health education/risk communication, policy development, workforce development and community outreach would all be required elements of the multidisciplinary centers.

Support for these Centers would be contingent on inclusion of a rigorous evaluation core that would be able to accomplish the longitudinal impact studies needed to assess long term program outcomes as well as the effectiveness of the Center’s interventions.

107

Creation of research models with mitigations and improved measurable health outcomes in low-income minority and environmental justice communities. Identify the green-house effect, global warming, and good-movement air quality from diesel emissions as emanating from low-income minority and environmental justice communities in higher rates than white and more affluent areas. WERA’s Community-owned and managed research (COMR) data collection, databases, and dissemination of data and reporting. Equity in community-based facilitation and parity in grant funding. Compliance and enforcement of violation of US EPA public health statutes.

108

109

- o Include state and city/county maternal and child health professionals. To improve both comprehension and penetration, include public health professionals who deal directly with families and city/county communities in preparation and review of materials. In designing research to identify differing effects on different age groups or population sectors, bring scientists and doctors together with maternal and child health epidemiologists and nurse managers.
- o Develop standards and disseminate them through research funding. To improve data quality and availability...
 1. Use multi-disciplinary teams from education, industry, private practice, and maternal and child health to...
 2. Develop and adopt standards for data collection so data from various sources may be grouped for quantitative analysis.
 To improve research quality...
 1. Include maternal and child health epidemiologists, who often have chronic disease and behavioral health research experience, in multi-disciplinary teams to...
 2. Develop and demonstrate/disseminate standards for analytic approaches that can have wide latitude in rigor or power – such as qualitative analysis, predictive modeling, small numbers analyses.
- o Include maternal and child health epidemiologists in multi-disciplinary teams to develop and demonstrate/disseminate...
- Analytic tools. Cost-effective methods for collecting key missing data such as length of exposure – both duration of direct exposure and length of residence/employment/time in job.
- o Collaborate with other government agencies to provide funding for research that is independent of the source of exposure and prevailing economic philosophies.

110

a.) Funding accessible to all impacted communities, e.g., people living in communities adjacent to

Department of Energy (DOE) facilities in the nuclear weapons system.

b.) Access to researcher(s) to work one-on-one with impacted community.

c.) Access to all related research materials.

111

X

112

- Coordinated, Superfund data source mentioned in the response to Question 1.
- Culturally and linguistically appropriate outreach and training materials for immigrant/refugee populations.
- Clearinghouse to distill and disseminate relevant research findings generated by all grantees of the Partnerships for Environmental Health Program.

115

Money for hiring, training and education and instrumentation to characterize whatever agent as the potential cause

116

- Most centers have limited staff and resources to do all the work that is needed and desired by the community.
- It would be helpful if centers could train and hire community members, students or hire skilled individuals:
 - o To conduct assessments of environmental hazards that communities feel are impacting their health and well being
 - o To help communities to gain access to information and resources
 - o To provide programs that are specific to the needs of the requestors
- We have to start valuing the time of the community members who are constantly being asked over and over to provide their input to help researchers figure out the answers to the questions or the environmental hazards of communities.

117

118

Funding, permission (?) because of restrictions on invasive techniques, standardized laboratories to evaluate samples.

119

Inter/Multidisciplinary training programs for pre/post doc, young faculty and even mid career which involve mentors/researchers/educators from different disciplines will force all participants to learn a new way to do environmental health research and outreach and education

Again inclusion of appropriate personnel and a requirement for outreach and education for all funded NIEHS research and Centers is key.

Focused outreach and education programs, possibly associated with particular center or research programs, would encourage the participation of appropriate personnel, as well as lead to more effective translation and dissemination of environmental health research.

Again collaboration with partners such as NSF and CDC can expand the resources and incorporate some of their existing funding and training mechanisms

120

The highest priorities to meet the objectives are for the required equipment, educational materials, and financial resources to meet the objectives and challenges before us. However, to be specific water testing equipment, transportation, resources for the development of accurate educational materials are our first concern. We wish to be completely prepared to meet and deliver on all described levels of operation.

These are outlined very specifically in our plan.

We have taken the time and prepared our plan to great depth and are prepared to submit it at request.

121

1) Create comprehensive, effective stakeholders groups committed to addressing deficiencies in educational and outreach approaches on regional and/or local levels and working with existing NIEHS funded programs.

2) Providing financial resources targeted specifically to education and outreach in addition to worker training soft and hard skills.

122

The highest priority resources needed are the need for intensive training of core community leaders who will become proficient in developing the methodologies for communicating and implementing the necessary public health changes. For example, a yearly regional or national six week intensive course for "promoters" is a possibility.

123

Simple handouts that can be used with child care settings as well as handouts that can be used with parents.

124

- Community partnerships need more effective methodologies and training to develop measures for local environmental public health priorities.
- Community partnerships need training to effectively evaluate community-based environmental public health initiatives.
- Community partnerships need training to develop the leadership to implement local environmental public health initiatives.
- Local environmental public health practitioners need the education and training to understand the underlying forces shaping the future role of the environmental public health delivery system.
- Training the environmental public health workforce to understand the limits of regulation and value of collaborative problem solving.

125

ATSDR's Division of Health Assessment and Consultation strongly believes that closer collaboration with NIEHS is the first step in creating opportunities to address the challenges identified throughout this questionnaire. We appreciate the opportunity to briefly list a few of the obvious challenges our staff address for the communities they serve. However, better information could be provided more efficiently by participation in frequent discussions.
